

# Appendix F

## Airport Capacity Design Teams Potential Savings from Recommended Airfield Improvements

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This appendix expands on the summary material in Table 2-4. Estimates in savings are in hours of delay and millions of dollars for selected airfield improvements recommended by the various Airport Capacity Design Teams. Estimates are given based upon demand — rated in annual operations — at current levels and future projections, referred to as Baseline, Future 1, and Future 2. Demand levels for each airport varied, and are listed in the tables.

It should be noted that the particular combination of computer models and analytic methods used to calculate the annual delay costs and benefits is unique to each airport. Therefore, it is difficult, if not impossible, to compare one airport with another.

For further details on individual airports and recommendations, refer to Appendix C and the specific Design Team study reports.

## Fort Lauderdale-Hollywood International Airport

Recommended Improvement	Estimated Annual Delay Savings (hours and millions of 1990 dollars)					
	Baseline-219,000		Future 1-294,000		Future 2-350,000	
	Hours	\$M	Hours	\$M	Hours	\$M
2d) Extend Runway 9R/27L 10,000 ft. long, 150 ft. wide, with CAT I ILS	1,355	\$1.62	7,910	\$11.12	20,680	\$32.34
Project Cost = \$259M						
4b) Improve angles exits on Runway 27R at Twy F	66	\$0.08	105	\$0.15	124	\$0.19
Project Cost = \$0.045M						

## Greater Pittsburgh International Airport

Recommended Improvement	Estimated Annual Delay Savings (hours and millions of 1990 dollars)					
	Baseline-471,000		Future 1-540,000		Future 2-618,000	
	Hours	\$M	Hours	\$M	Hours	\$M
6) Construct south parallel runway 4,300 ft. south of Runway 10R/28L and north parallel runway 1,000 ft north of Runway 10L/28R	—	—	59-60	\$67-\$68†	124-126	\$127-\$129†

† The lower value represents Runway 10L use without jet departures; higher value, with jet departures.

## Honolulu International Airport

Recommended Improvement	Estimated Annual Delay Savings (hours and millions of 1991 dollars)					
	Baseline-407,000		Future 1-500,000		Future 2-700,000	
	Hours	\$M	Hours	\$M	Hours	\$M
4) Extend Runway 4L/22R to southwest to 10,000 ft.	7,290	\$14.2	32,920	\$64.1	42,420	\$82.6
Project Cost = \$44.8M						
9) Construct Runway 8C/26C	13,510	\$26.3	57,880	\$112.7	382,490	\$744.7
Project Cost = \$86.0M						
12) Construct angles exits on Runways 4R, 8L, and 26L	460	\$0.9	7,860	\$15.3	32,820	\$63.9
Project Cost = \$10.0M						

## Houston Intercontinental Airport

Recommended Improvement	Estimated Annual Delay Savings (hours and millions of 1992 dollars)					
	Baseline334,000		Future 1-450,000		Future 2-650,000	
	Hours	\$M	Hours	\$M	Hours	\$M
1a) Extend Runway 14R/32L	1,300	\$2.2	11,400	\$20.0	189,600	\$330.0
Project Cost = \$13.4M						
1f) New Runways 8L/26R and 9R/27L for quadruple independent approaches	(11,100)	(\$13.7)	24,000	\$41.7	764,400	\$1,335.4
Project Cost = \$135.5M						
2b) New high speed exit on Runway 14R	1,100	\$0.6	7,600	\$10.4	313,600	\$545.7
Project Cost = \$0.72M						

## Los Angeles International Airport

Recommended Improvement	Estimated Annual Delay Savings (hours and millions of 1990 dollars)					
	Baseline-641,751 Hours	\$M	Future 1-711,092 Hours	\$M	Future 2-782,056 Hours	\$M
1) Construct departure pads	7,692	\$14.06	30,701	\$60.29	67,274	\$141.23
5a) Construct 24 remote gates	—	—	—	—	1,722	\$3.62
Project Cost = \$36.3M						
7) New high speed Taxiway 43	441	\$0.8	444	\$0.87	455	\$0.96
Project Cost = \$5.3M						

## Minneapolis-Saint Paul International Airport

Recommended Improvement	Estimated Annual Delay Savings (hours and millions of 1992 dollars)					
	Baseline-420,390 Hours	\$M	Future 1-530,000 Hours	\$M	Future 2-600,000 Hours	\$M
4) New Runways 17/35 and 11N/29N	8,438	\$12.2	26,296	\$38.1	56,548	\$81.8
Project Cost = \$307.0M						
7) New full-length parallel taxiway for Runway 11R/29L	927	\$1.3	1,147	\$1.7	2,340	\$3.4
Project Cost = \$16.0M						
8) Dual crossover taxiways for Runways 11L/29R and 11R/29L	2,084	\$3.0	3,294	\$4.8	3,787	\$5.5
Project Cost = \$20.0M						

## Nashville International Airport

Recommended Improvement	Estimated Annual Delay Savings (hours and millions of 1989 dollars)					
	Baseline-266,000 Hours	\$M	Future 1-417,500 Hours	\$M	Future 2-534,000 Hours	\$M
1) Relocate Runway 2C and extend to 8,000 ft.  Project Cost = \$33.0M	—	—	2,969	\$2.9	7,585	\$7.6
4) Improve Taxiways  Project Costs = \$27.8M	—	—	413	\$0.4	1,034	\$1.0
5b) New Runway 2E/20E 2,500 ft. east of Runway 2R/20L  Project Cost = \$150.0M	—	—	4,371	\$4.6	7,413	\$7.8
11) Connecting taxiway from Concourse D to Runway 2R/20L  Project Cost = \$15.0M	—	—	4,017	\$4.0	7,392	\$7.5

## Philadelphia International Airport

Recommended Improvement	Estimated Annual Delay Savings (hours and millions of 1990 dollars)					
	Baseline-410,000 Hours	\$M	Future 1-500,000 Hours	\$M	Future 2-565,000 Hours	\$M
2) New 5,000 ft. commuter Runway 8/26  Project Cost = \$169.2M	20,402	\$28.4	88,171	\$122.8	154,624	\$215.4
3) Relocate Runway 9L/27R 400 ft. south  Project Cost = \$108.7M				†		
4) Shift Runway 9L/27R 2,735 ft. to the west  Project Cost = \$54.9M				†		
5) Shift Runway 9R/27L 1,000 ft. to the east  Project Cost = \$30.6M				†		

† The savings shown represent the combined benefits of recommended improvements 2, 3, 4, and 5.

